Latest release

Australian Labour Account

Labour Statistics: Concepts, Sources and Methods

Reference period: 2023

Released 24/11/2023

Sections

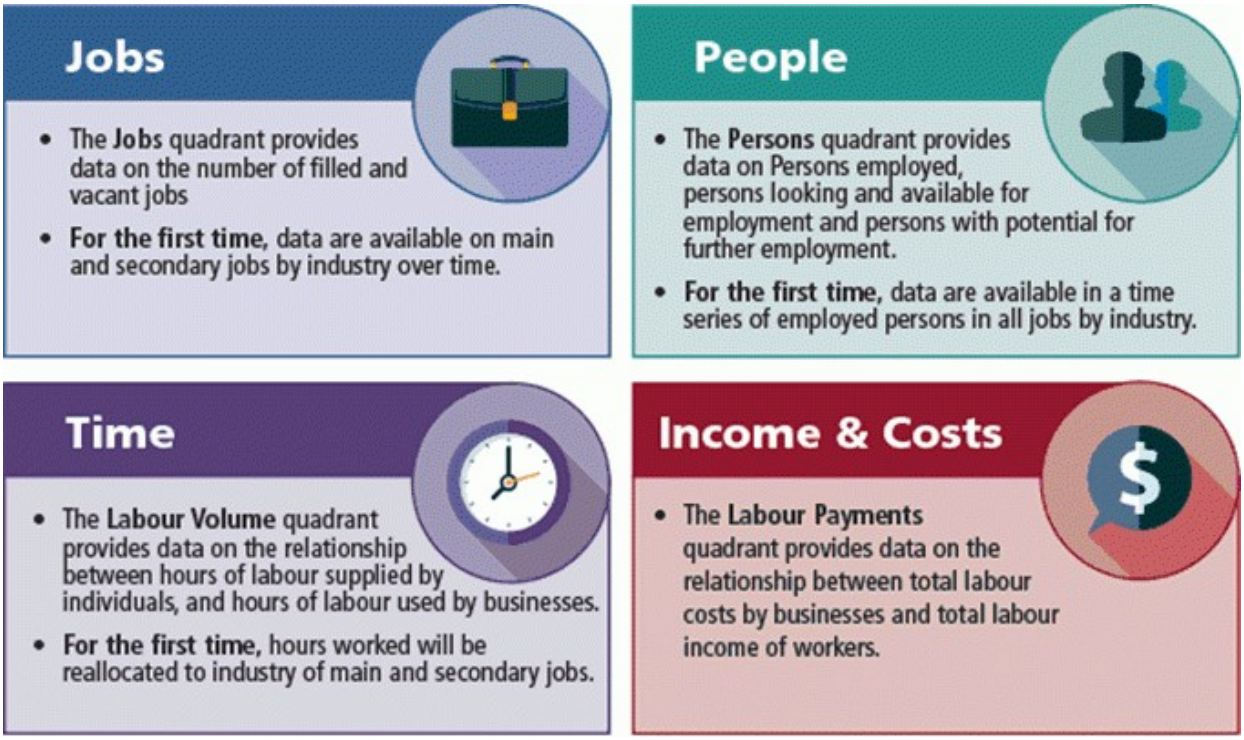
The Australian Labour Account provides a conceptual framework for integrating data from a number of sources including household survey, business survey and administrative data to produce a coherent and internally consistent set of aggregate estimates of key labour market variables, which more effectively enable the description and analysis of the state and dynamics of the Australian labour market. These core variables can help users make sense of seemingly inconsistent labour related data, which are often based on different reference periods, populations, concepts, definitions and methodologies.

The Australian Labour Account is macro-economic in scope, building on the International Labour Organisation fundamentals and expanding them to ensure consistency with the Australian System of National Accounts. It aims to extend the analytical capacity of national accounts data by providing a labour-specific lens. The Australian Labour Account framework has been designed to conceptually align with the System of National Accounts production boundary (see Institutional Units and the Economically Active Population). This ensures direct compatibility with National Accounts and productivity estimates, as well as providing a mechanism for bringing together conceptually related aggregate data from business, household and administrative sources.

The Labour Account provides a time series of estimates of the number of employed people, the number of jobs, hours worked and the income earned for each industry in one coherent framework. Historically, published estimates of employed people in each industry have only been available for industry of main job. The expanded scope and additional data sources used in the Labour Account include data for multiple job holders by their industry of second, third and fourth job. The Australian Labour Account is published on a quarterly basis in Labour Account Australia (/statistics/labour/employment-and-unemployment/labour-account-australia/latest-release) .

The Australian Labour Account framework incorporates four quadrants: Jobs, People, Hours and Labour Payments.

Australian Labour Account quadrants



The Labour Account is also used in multi-source releases including:

- Labour hire workers (/statistics/labour/earnings-and-working-conditions/labour-hire-workers/latest-release) - The headline estimate of people employed and jobs worked in Labour Supply Services are sourced from the Australian Labour Account. Insights into the characteristics of people working as labour hire workers is available from Jobs in Australia (JIA) on an annual basis and Characteristics of Employment (COE) every two years.
- Multiple job-holders (/statistics/labour/jobs/multiple-job-holders/latest-release) - The headline estimates of the level and rate of multiple job-holding are sourced from the Australian Labour Account. Additional detail on socio-demographic and employment characteristics of multiple job-holders are sourced from the Labour Force Survey and Jobs in Australia.

International context

There are currently no international standards regarding the production of a labour account, however a four step process has been documented by the ILO and was followed (to varying degrees) by the National Statistical Organisations in Denmark, the Netherlands and Switzerland in compiling their own labour accounts. The ILO process has been used as a guide in compiling the Australian Labour Account. For further information on the four step process, refer to Labour Accounts: A Step Forward to a Coherent and Timely Description of the Labour Market (https://www.ilo.org/global/statistics-and-databases/WCMS_087916/lang--en/index.htm) .

The ILO describes two approaches to compiling a labour account: a cross-sectional approach involving confrontation and reconciliation of key labour market measures, and a longitudinal approach which incorporates changes to population and labour force via births, deaths, and net migration, and includes measures such as duration of employment. The Australian Labour Account focuses on the cross-sectional approach (since this is the approach that supports data confrontation and reconciliation), and also provides a time-series dimension.

The ILO lists six central elements in labour statistics:

- employed people and jobs;
- unemployed and underemployed people;
- job vacancies;
- hours of work and full-time equivalents;
- income from employment and labour costs; and
- organisation of the labour market (i.e. statistics on collective labour agreements, industrial disputes and trade-union memberships).

No country has yet compiled a labour account that measures all of these elements. The Australian Labour Account covers most elements listed in the ILO approach, with the exception of data on full-time equivalents and statistics on labour market organisation. The Australian Labour Account also includes measures of underutilised labour (an estimate of the hours of work sought by the unemployed, plus additional hours preferred by the underemployed).

The Australian Labour Account, in particular the quarterly information disaggregated by industry division, provides an opportunity to significantly improve the quality of aggregates such as the number of jobs occupied and total number of people employed within each industry, measures of hours worked, and changes in labour productivity.

Uses of the Labour Account

The Australian Labour Account is an enhancement to the broader set of Australia's National Accounts. It aims to provide a set of labour related statistics on employed people, filled jobs, hours and payments that is consistent with the concepts, definitions and scope of the Australian National Accounts.

Australian Labour Account data are likely to be of most value to people engaged in the use of labour statistics in macro-economic analysis, forecasting and in policy related research. They should also assist economic journalists and public commentators in informing public

understanding of labour statistics.

The Australian Labour Account should be used for industry analysis of labour growth and performance in terms of people, jobs, hours, labour costs and income. For example, Labour Force Survey data for employed people by industry has historically only been available for industry of main job. The expanded scope and additional data sources of the Australian Labour Account includes data for the total number of all secondary jobs (including second, third and fourth job etc.), allocated to industry of main and secondary job. This allows for an industry perspective of the number of people employed in each industry in a time series. These data can be used by researchers and policy makers to better model how the number of people employed could be impacted by shocks to industry or changes to policy.

The Australian Labour Account is a complement to the existing suite of labour statistics. Users should continue to use the Labour Force, Australia for headline employment, unemployment and people not in the labour force estimates, as this is the data suite that is internationally comparable and aligned with International Labour Organisation (ILO) conventions.

Macro-economic analysis

The Australian Labour Account draws on the macro-economic framework and statistical techniques used in the Australian National Accounts to help address the inconsistencies, scope gaps, frequency and timeliness shortcomings of labour data drawn from a variety of business and household surveys and other administrative sources.

The Australian Labour Account tables are designed for use in macro-economic analysis. They provide annual and quarterly data on a similar timetable and at a similar level of industry detail as the national accounts.

An important use of the Australian Labour Account is in the analysis of productivity, where the Australian Labour Account provides data on hours worked at an industry level that is more coherent with industry output than data currently available from the household Labour Force Survey.

The Australian Labour Account may assist users in understanding the employment implications, at a macro-economic scale, of developments such as globalisation, new technologies, growth of services and the changing pattern of global demand for resources.

The Australian Labour Account also helps users understand the economic contribution of groups who fall outside the scope of official Labour Force Survey statistics, particularly the contributions of non-residents.

Micro-economic analysis

The Australian Labour Account tables do not incorporate detailed data on employment by age, gender, income, earnings, employment arrangements, union membership, occupation, educational qualifications or region.

If users require detailed dynamics essential for analysis of individual or household characteristics, they should continue to rely on the Census, household and business surveys, and on exploiting the potential of tax and other administrative transaction records. The Australian Labour Account nevertheless provides a macro-economic context within which to understand and interpret micro-economic labour data.

International comparisons

To enable the international comparison of labour statistics, especially data on employment and un-employment, Australia (along with most countries) follows guidelines and standards established by the ILO. Australia's official labour force data, derived from the household Labour Force Survey, remains the source of internationally comparable statistics on the labour force, employment and unemployment.

Due to practical difficulties in consistently measuring work undertaken by certain population groups, particularly children, transient workers and defence force personnel, ILO standards exclude these groups, despite the fact their labour activities contribute to national production. The Australian Labour Account shows that people excluded from the scope of official Labour Force Survey statistics account for about 5% of all people employed in production in Australia. The Australian Labour Account, based on 2008 System of National Accounts (2008 SNA) standards, should assist in making more reliable and transparent comparison of productivity statistics and other data that relate labour inputs to production, earnings and expenditure.

Limitations to be aware of in the use of the Labour Account are described below.

Conceptual limitations

The purpose of the Australian Labour Account is to support macro-economic analysis requiring data on the participation of the population in paid employment and related economic production. In addition, the Australian Labour Account is designed to be consistent in concept and scope with the Australian System of National Accounts (ASNA). For this reason, work which falls outside the ASNA definition of economic activity such as

cleaning, cooking and child care produced and consumed within households, and voluntary work undertaken outside institutional settings such as coaching children's sports teams, are excluded from the scope of the Australian Labour Account. Estimates of numbers of people engaged, and hours spent, in unpaid work are available from other sources, e.g. How Australians Use Their Time, 2006.

Content limitations

The macro-economic emphasis is again reflected in the level of disaggregation of Australian Labour Account data. The focus is on the national economy, with data disaggregated by industry at the Australian and New Zealand Standard Industrial Classification (ANZSIC) division and subdivision levels. Data are available both quarterly and annually, with quarterly data published in close succession to the Australian National Accounts. The development of a state level component, in line with the state component of the Australian National Accounts, would be a potential further extension of the Australian Labour Account.

Scope limitations

Some types of activity conceptually falling within the scope of the Australian Labour Account may be excluded from, or not well measured in, the available data sources. These are summarised below.

Scope limitations impacting both household and business estimates include:

- jobs associated with illegal or hidden activities (the non-observed economy) are likely to be under-reported in both business and household surveys;
- positions that are voluntary, with no remuneration at all, not even in kind, but working within a recognised institutional unit, are outside the scope of both business and household collections;
- non-salaried directors are not included in business or household sources;
- child workers under the age of five are outside the scope of business collections (those who are self-employed or contributing family workers) and household collections (all employed children under five); and
- there is no good source of data on jobs that are filled by two or more people under a job sharing arrangement. On both the business and the household sides, a position that is filled by a job sharing arrangement would be counted as multiple filled jobs, not a single job held by multiple employed people.

Scope limitations impacting household side estimates include:

- data on hours worked are calculated for a particular reference week each month, and

are assumed to be representative of weeks for which data are not collected;

- industry estimates for the unemployed population are based on industry of last job worked (within the past two years) from the Labour Force Survey, and do not necessarily equate to the industries in which the unemployed are currently seeking work, nor do they include those unemployed people who have never held a job previously;
- no adjustments have been made to align the Labour Force Survey unemployed people or hours sought with the 2008 SNA residency and production boundaries, as there is no reliable information to derive estimates of additional hours of work sought by short term working visa holders. It is also assumed that defence force personnel and child workers are fully employed. The Labour Account should not be used to derive proportional measures such as an unemployment rate or participation rate, as the numerator and denominator are not strictly comparable;
- illegal non-resident job holders: the estimated number of short term (less than 12 months) visitors to Australia who work for Australian resident enterprises is based on numbers of working visa holders. No estimate is made for those working without an appropriate visa; and
- Australian residents living in Australia employed by overseas resident enterprises: an estimate of the number of jobs filled by these people has been deducted from household side estimates, based on data supplied by the Department of Home Affairs. This estimate only represents people working in diplomatic or consular related jobs.

Scope limitations impacting business side estimates include:

- domestic staff employed by private households are outside the scope of business surveys used in compiling business sources estimates of filled jobs, but would be in scope of the Labour Force Survey;
- jobs held by self-employed people operating their business without a registered ABN fall outside the scope of business surveys, but would be in scope of household surveys;
- employees on workers' compensation who are not paid through the payroll are not included in business side sources;
- estimates for employment subsidies in the Labour Payments quadrant are based on Commonwealth data sourced from the Department of Finance. No adjustment has been made for employment subsidies paid under State or Local government schemes. Employment subsidies can be difficult to classify, particularly state or local government schemes for which information is often limited;
- no adjustments have been made to labour payments for unpaid employed people (both adult and child workers) working on a farm or in a family business (contributing family workers). It is likely that these employed people are paid in-kind, but this is impossible to estimate with any degree of confidence;
- no adjustment has been made for payments made to child workers under self-employment arrangements in the Labour Payments quadrant. It is possible that self-employed child workers are not being captured in labour payment estimates, as they are likely to not have an ABN and therefore be out of scope of ABS business surveys. One of

the most common occupations from the 2006 Child Employment Survey was Leaflet or Newspaper Deliverer. It is likely that an employed child delivering leaflets would be treated as an independent contractor by their employer, and not an employee. In this situation, if the employed child does not have an ABN, they are unable to be selected for ABS business surveys.

- job vacancies data does not include vacancies available in the non-observed economy (jobs associated with illegal or hidden activities), private households employing staff, foreign embassies and consulates, and Australian permanent defence forces.
- the Jobs and Skills Australia Internet Vacancy Index, used to supplement ABS Job Vacancies Survey data for the Agriculture, Forestry and Fishing Division, only includes job advertisements listed on the internet. Job advertisements listed only in newspapers, on notice boards and other mediums (other than the internet) are not included;
- there is no known data source relating to hours worked but not paid, or hours paid but not worked; and
- the survey of Employee Earnings and Hours, which is used as a source for calculating hours paid, excludes employees in certain industries and in certain employment categories (e.g. employees on leave without pay, on strike, or casuals not rostered to work during the survey reference period, managerial employees where there is no link between pay and hours worked, and employees on workers' compensation who are not paid through the payroll).

Other limitations

Timeliness:

- Annual industry statistics compiled from the annual EAS are not available at the time required for compiling the latest annual Australian Labour Account estimates, requiring the extrapolation of Labour Account filled jobs (and related) data for up to seven quarters.
- There is a time lag between the current reference period and the release of data in Government Finance Statistics, Australia. Therefore, data for employment subsidies in the Australian Labour Account are extrapolated forwarded based on the movement of previous data.

Data availability:

- Data on numbers of child workers has not been collected since 2006. In modelling current estimates of numbers of child workers, assumptions are made about the proportion of children working, the industries in which they work and their propensity to hold secondary jobs.
- Data are not available for earlier parts of some series of the Australian Labour Account, and missing data have been estimated through applying movements or proportional distribution from a conceptually related series to observed Australian Labour Account

data. Data estimated in this way should not be considered to be as statistically robust as data based on observed and comparable survey estimates.

Accuracy

- As noted in the discussion of Balanced Tables, there are several sources of statistical error in source data which are reflected in internal discrepancies within the Australian Labour Account, most notably between household and business side estimates of numbers of filled jobs.

Methodological limitations

- Methods used in compiling Australian Labour Account statistics are constrained by the robustness of their assumptions. Assumptions made in the Australian Labour Account include:

Jobs quadrant:

- quarterly estimates of private sector business sources filled jobs assume that movement in numbers of jobs reported are indicative of changes in benchmarked employment numbers reported in Australian Industry;
- that short term student visa holders have similar levels of employment to other resident students aged 15-24 years;
- that short term visa holders other than students and sponsored visa holders have similar levels of employment to the broader resident population;
- that permanent defence force personnel and employed children under 15 years do not hold secondary jobs; and
- that average proportions of multiple job holders with second, third and fourth jobs apply to time periods prior to 2014. While data collected prior to 2014 can identify whether an employed person is a multiple job holder, numbers of secondary jobs were not collected from the LFS prior to 2014.

Hours quadrant:

- that derived weekly averages sourced from the Survey of Employee Earnings and Hours (used in computing hours paid for) are equally applicable to employees who are not covered by the survey, including:
- employees on leave without pay, on strike, or casuals not rostered to work during the survey reference period;
- people engaged in the Agriculture, Forestry and Fishing industry;
- employees on workers' compensation who are not paid through the payroll; and
- members of the Australian permanent defence forces.

Labour Account framework

The Australian Labour Account framework has been designed to conceptually align with the accounting conventions of the United Nations System of National Accounts (2008 SNA), as applied in the Australian System of National Accounts (ASNA). In particular, the Australian Labour Account aligns with production and residency boundaries of the ASNA. This ensures direct compatibility with national accounts and productivity estimates, as well as providing a mechanism for bringing together conceptually related aggregate data from business, household and administrative sources. The scope of the Australian Labour Account is consistent with that of the national economy, as defined in the Australian System of National Accounts (ASNA), which follows the international standard set out in the United Nations System of National Accounts.

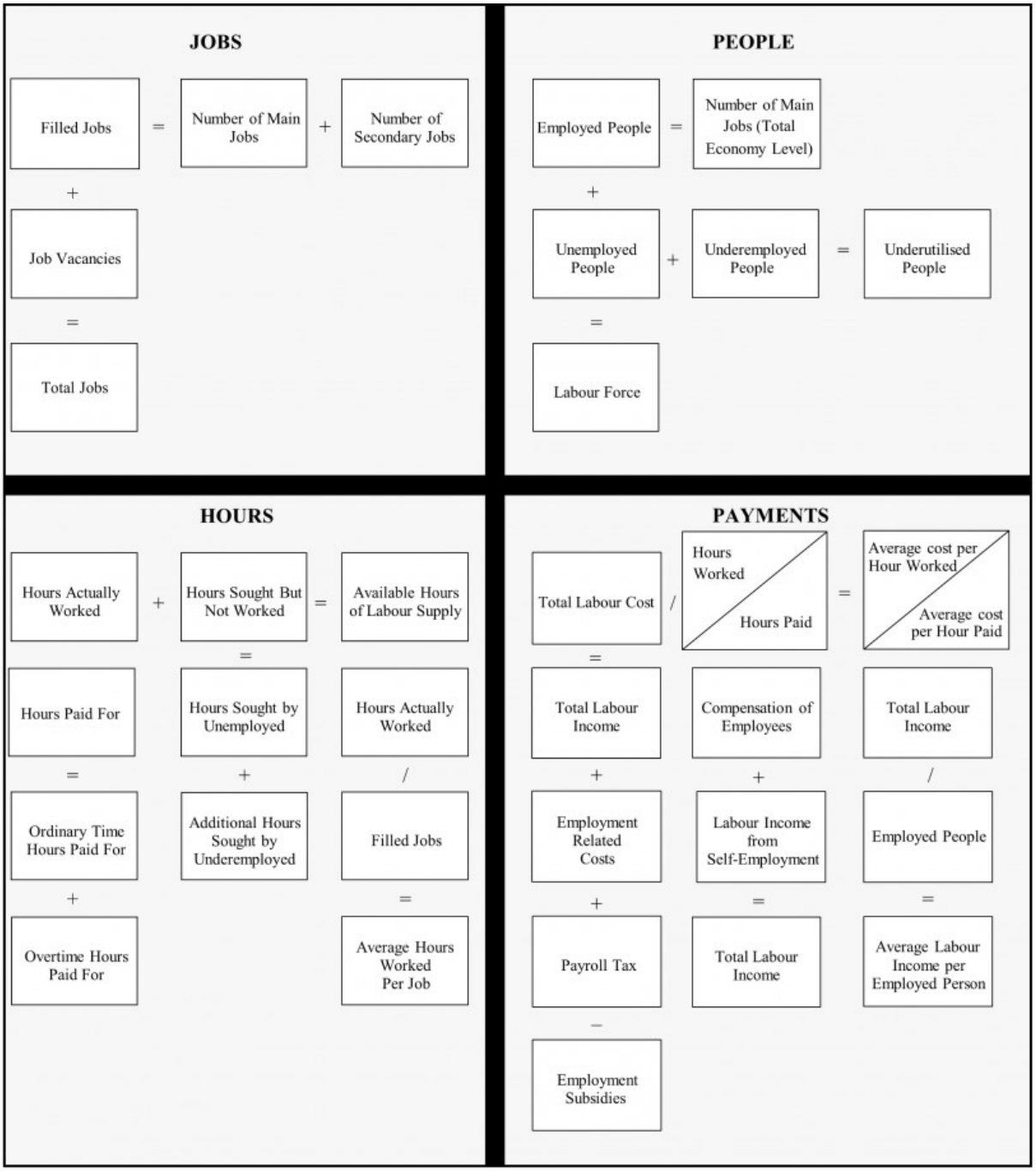
The Labour Account consists of four quadrants: Jobs; People; Hours and Labour Payments.

- The Jobs Quadrant provides data on numbers of filled jobs derived separately from business and household sources, plus data on vacant jobs to provide a total number of jobs in the economy.
- The People Quadrant includes data on numbers of employed people, together with data on numbers of unemployed and underemployed people (derived from household sources).
- The Hours Quadrant provides data on hours worked (from household sources) and hours of work sought by unemployed people and additional hours preferred by underemployed people (from household sources), plus hours paid for (derived from business sources).
- The Labour Payments Quadrant provides data on labour income and employment costs (from business sources).

The Labour Account combines data from the jobs, people, hours and labour payments quadrants to calculate average hours worked, average remuneration (per person and per job), and average labour cost per hour worked.

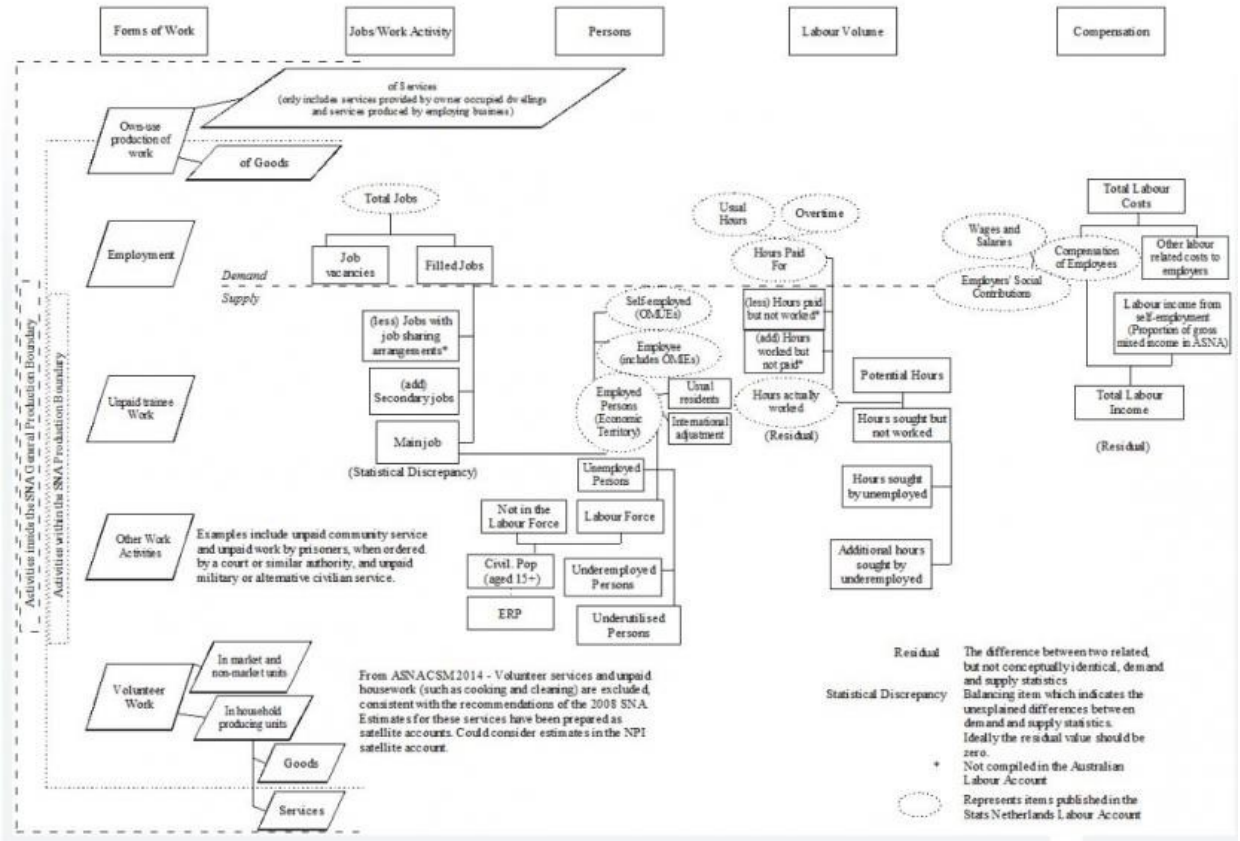
The four quadrants are linked by a set of identity relationships, which the aggregate statistics must satisfy. These identities are shown below. The identities used in the Australian Labour Account are consistent with the identities used in other countries. Some relationships are direct, such as employed people in the total economy is equal to the number of main jobs, while other relationships are considered indirect or derived, such that the relationship is based on an average or ratio measure such as average hours worked per job, or average labour income per employed person.

Identity relationship diagram



Conceptual framework

Labour Account conceptual framework



Labour Account concepts

The supply of labour relates to the quantum of labour services offered by people (i.e. the number of hours actually worked by employed people, plus the number of hours being sought by those who are unemployed and the number of additional hours preferred by the underemployed). Household surveys are the primary source of data on the supply of labour, supplemented by related administrative data.

Labour demand relates to the quantum of labour services sought by companies and other institutional units engaged in economic activity, within the scope of the 2008 SNA production boundary. It includes the numbers of hours actually paid for in filled jobs, plus the unmet labour demand by employing units measured through vacant jobs. Surveys of businesses, government and not-for-profit institutions and relevant administrative data sets are the main sources of information on labour demand.

Production boundary

Accounts compilation uses some important boundaries to define the scope and treatment of events that occur within the economy. These boundaries are:

- the production boundary defining the scope of productive economic activity; the asset

boundary distinguishing transactions in assets from income and expenditure; and

- the boundary between current and capital transfers (IMF, 2007, The system of macroeconomic accounts statistics: an overview, Pamphlet series no. 56).

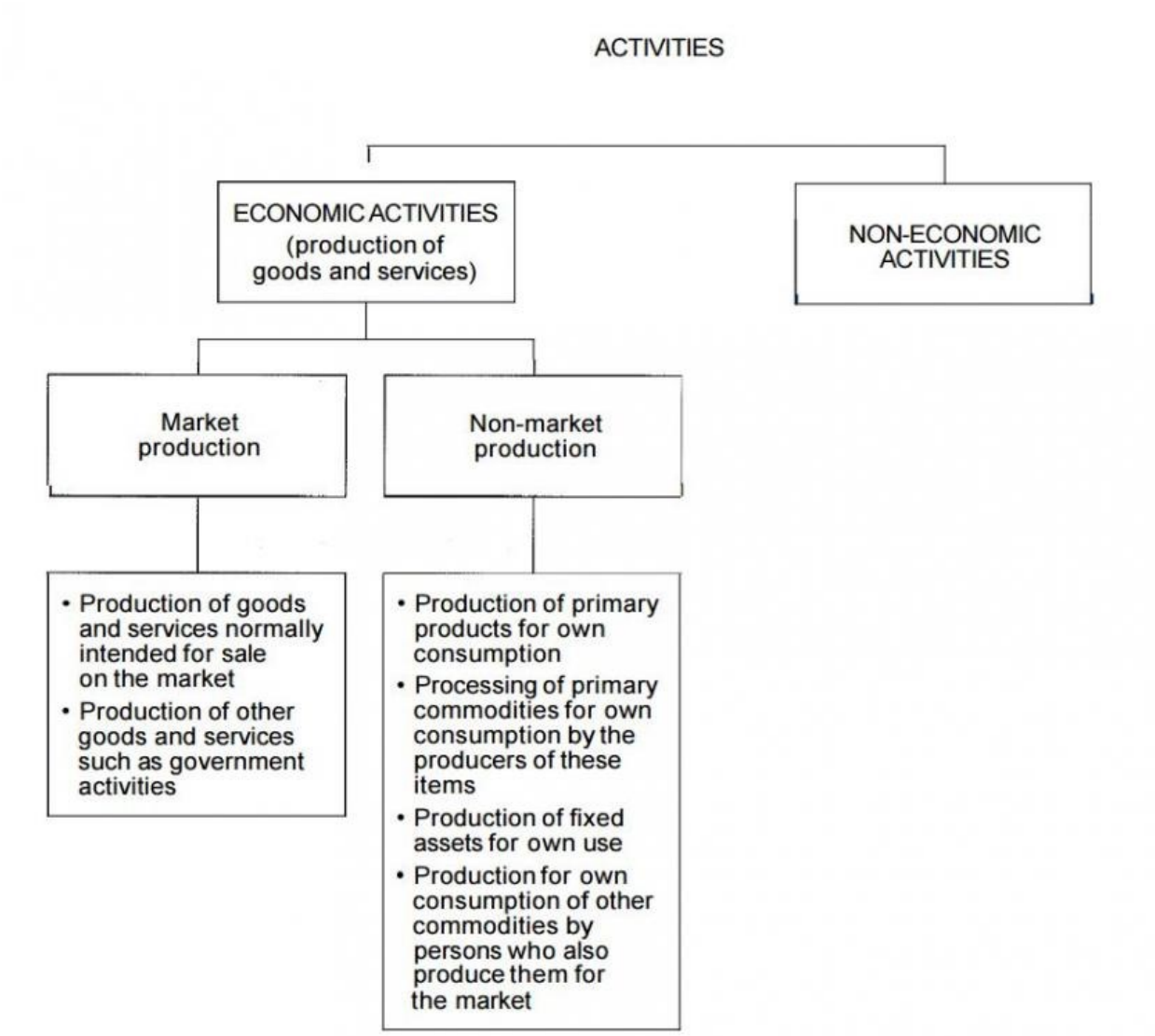
The definition of the production boundary used in the Australian Labour Account determines the scope of activities covered, and the size of the economy measured in the account.

The Australian Labour Account includes all people employed in economic activity as defined by the 2008 SNA. Economic activity is the production of goods and services falling within the 2008 SNA production boundary by institutional units resident in the Australian Economic Territory. In the 2008 SNA, production is viewed as a physical process in which labour and assets (capital) are used to transform inputs of energy, materials and services into outputs of other goods and services.

In its simplest form, economic activity is the production of goods and services, and in the 2008 SNA is always a result of production (ASNA, 2.8).

Economic activity covers all market production and certain types of non-market production, including the production and processing of primary produce by households for their own consumption (e.g. vegetable gardens, fruit trees or eggs from chickens), the construction of dwellings and structures for own use, the production of fixed assets for own use and the production of dwelling services from owner occupied homes.

Scope – economic activity in terms of 2008 SNA concept of goods and services production



While the 2008 SNA definition of the production of goods and services covers a wide range of activities, many other activities still remain outside its scope. For example, the production of domestic and personal services for consumption within the same household (such as preparing meals and caring for children) is excluded. The production of most domestic and personal services is excluded, as the decision to consume these services within the household is made even before the service is provided, and because of the adverse effects their inclusion would have on the usefulness of the accounts for policy purposes and analysis of inflation and unemployment. The extension of the production boundary to include own account household services would result in virtually the whole adult population being defined as 'economically active', unemployment under the existing International Labour Organisation (ILO) definition would cease to exist, and employment statistics would become meaningless (2008 SNA, 1.42, 6.31; ASNA, 8.3).

One exception is the production of dwelling services from owner occupied housing. This is a

pragmatic compromise required to allow comparison of economic activity between countries with significant differences in rates of home ownership. However, no labour input is associated with this activity.

Unpaid work and volunteer services

A distinction can be made between those who have an agreement to provide labour for token remuneration or income in kind, those for whom there is explicitly no remuneration, and those where there is apparently no remuneration but the workers benefit directly from the output to which they contribute. In ILO statistics, all three types of worker are included in the economically active population as employees.

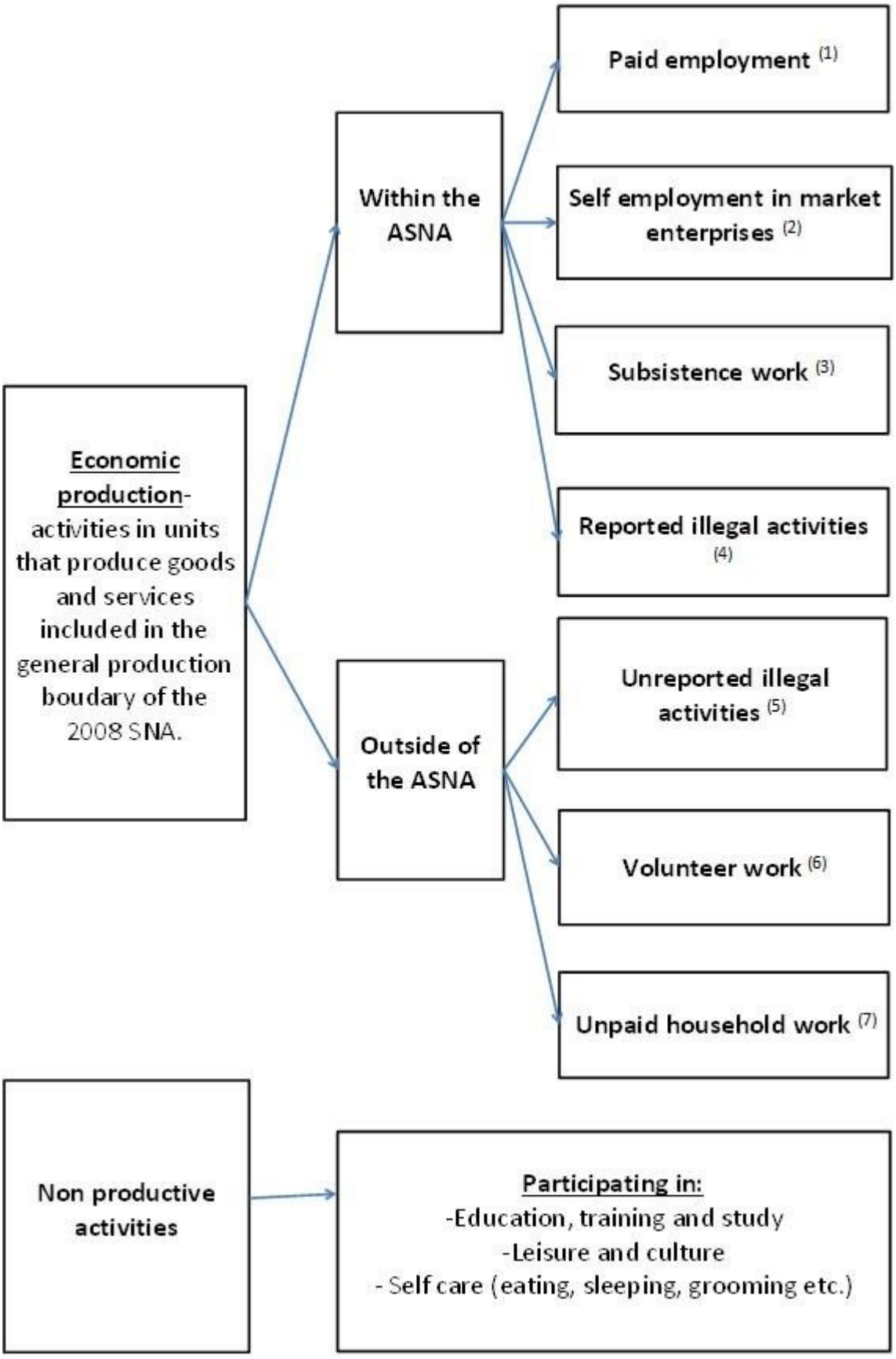
In the 2008 SNA, the remuneration of those working for token amounts or only income in kind is measured by these costs. No imputation for an additional element of remuneration is included. For example, if doctors or teachers work for only food and lodging, the value of this as income in kind is the only remuneration imputed to them. Such instances may arise in religious institutions, or in the wake of natural disasters. If the unit employing these staff is responsible for whatever little remuneration is received, these people are classed as employees and included in the scope of the Australian Labour Account.

If staff are purely voluntary, with no remuneration at all, not even in kind, but are working in a recognised institutional unit (business, government agency, not-for-profit organisation) engaged in economic activity, then these individuals are still regarded as being employed in 2008 SNA terms. As they are not paid, there is no related compensation of employees recorded for them. Individuals providing services to groups of other individuals, such as coaching a children's sports team, without any associated infrastructure, are not regarded as employed but rather engaging in a leisure pursuit (2008 SNA, 19.37 - 19.39).

Although they fall within scope of the 2008 SNA, the Australian Labour Account does not include estimates of numbers of people engaged by institutional units on a purely voluntary basis. This is consistent with the current treatment in the ASNA, which unlike the 2008 SNA does not allow for the measurement of voluntary contributions of labour.

If family members contribute to the output of an unincorporated enterprise, the estimate of mixed income is assumed to include an element of remuneration for them, and thus they are all treated as being in the economically active population from a 2008 SNA point of view (2008 SNA, 19.40). The Australian Labour Account includes estimates for contributing family members, consistent with the 2008 SNA.

In scope activities with the ASNA



Treatment of illegal activities

The 2008 SNA treats illegal actions that conform to the characteristics of transactions (notably the characteristic that there is mutual agreement between the parties) in the same way as legal actions. Thus, although the production or consumption of certain goods such as narcotics may be illegal, market transactions in such goods should, in principle, be recorded in the national accounts.

As such, the work done by people working illegally on a farm (i.e. visa holders working in breach of visa conditions), working in the construction industry without a permit, selling merchandise without a licence, or working 'cash-in-hand' for tax evasion purposes or for fear of being reported to immigration officials, falls within the scope of economic activity.

However, many illegal actions are crimes against people or property that cannot be construed as transactions. For example, theft is not an action into which two units enter by mutual agreement. Conceptually, theft or violence is an extreme form of externality in which damage is inflicted on a household or another institutional unit deliberately, and not merely accidentally or casually. Thus, thefts of goods from households, for example, are not treated as transactions and estimated values are not recorded for them under household expenditures (2008 SNA 3.97; ASNA 3.22-3.23).

Due to reluctance in reporting illegal activity on the part of those engaged, it is likely that employment related costs, remuneration, employment, jobs and hours worked related to these activities are under-reported in both business and household surveys and administrative records used in compiling both Australian National Accounts and Australian Labour Account statistics.

Although some illegal activity is within the 2008 SNA production boundary and may be reported to some extent by businesses, Australia does not specifically adjust for employment relating to illegal activity in the ASNA. Similarly, illegal activity is not adjusted for in the Australian Labour Account.

Scope of the population

Economically active population

The Australian Labour Account contains information about the economically active population who provide labour for economic production. The economically active population is defined as all people who, during a specified time, contribute to or are available to contribute to the production of economic goods and services as defined by the 2008 SNA.

Population age

The scope of the population in the Australian Labour Account includes all people who

contribute to Australian economic activity, irrespective of age. This scope is consistent with the 2008 SNA.

The ILO standards and guidelines defining the labour force recognise the need to exclude people below a certain age from the measures, without specifying a particular age limit. The responsibility for setting such limits lies with individual countries. Examples of factors influencing the age limit are:

- legislation governing the minimum school leaving age;
- labour laws setting the minimum age for entering paid employment;
- the extent of the contribution to economic activity by young people; and
- the cost and feasibility of accurately measuring this contribution in household surveys.

A maximum age limit is not a feature of the international guidelines but, for practical reasons, some countries do use a maximum age limit. The international guidelines also recognise the possible need, in the survey context, to exclude other population groups such as people living permanently or semi-permanently in institutions.

Australia has adopted an age definition of 15 years and over in the Labour Force Survey, as is allowed within ILO standards and guidelines. Australian labour and compulsory schooling legislation have resulted in low numbers of young people below this age being involved in economic activity. While such legislation varies from state to state, the net result is that age 15 is the lowest practical limit at which it is feasible and cost-effective to measure the participation of young people in economic activity with acceptable accuracy in a household based collection (i.e. the Labour Force Survey).

Employment data collected in ABS surveys of businesses relate to all people employed in economic activity falling within the scope of the survey, regardless of age.

Scope differences in ABS surveys are adjusted for in the Australian Labour Account.

Australian Defence Forces

The Australian Labour Account includes permanent members of the Australian Defence Forces (ADF). This is consistent with the scope of the 2008 SNA.

The ILO international standards require that members of the armed forces be classified as employed and recommends that, for analytical purposes, the economically active population be divided into two parts: the armed forces and the economically active civilian population. The guidelines recognise that there may be difficulties in obtaining information about membership in the armed forces from labour force surveys, and that separate use of administrative counts may be necessary.

As a result of these recognised difficulties in obtaining data, Australia excludes permanent members of the armed forces from the Labour Force Survey and the related labour force estimates. Similarly, ANZSIC Class 7600 (Defence) is out of scope of relevant business surveys. Data on Australian defence force members are included in the Australian Labour Account to adjust for differences in scope between survey data and the ASNA.

Australian Defence Forces Reservists

ADF reservists are included in the current collection of the Labour Force Survey, and in the Australian Labour Account. Reservist jobs are considered as secondary jobs, should the reservist have a main job elsewhere.

Non-private dwellings

While some household surveys exclude all people living in non-private dwellings, these people are included in the Labour Force Survey and therefore in the Australian Labour Account.

People living in non-private dwellings include people living in correctional and penal institutions, dormitories of schools and universities, religious institutions, hospitals, boarding houses, hotels and motels and so on. The exclusion of the institutional population in some household surveys is largely due to practical considerations of sampling.

Institutional units and sectors

The 2008 SNA defines an institutional unit as an economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transactions with other entities (2008 SNA, 4.2; ASNA, 4.3). There are two types of institutional units: Households and Legal or Social Entities (ASNA 4.6).

Households

A household is defined as a group of people who share the same living accommodation, who pool some or all of their income and wealth, and who consume certain types of goods and services collectively, mainly housing and food (2008 SNA, 4.4; ANSA, 4.7). Households are providers of labour services.

Legal or social entities

A legal or social entity is defined as one whose existence is recognised by law or society independently of the people or entities that may own or control it (2008 SNA, 4.6; ASNA, 4.10). In the Australian system, the legal entity unit is closest to the 2008 SNA concept of the institutional unit. However, in the ASNA, the unit used is the enterprise, which can be a single legal entity or a group of related legal entities that belong to the same institutional

subsector. Four main types of institutional units are recognised in the 2008 SNA and the ASNA: households, non-profit institutions, government units and corporations (including quasi-corporations) (ANSA, 2.3).

The ASNA recognises corporations (incorporated and unincorporated), co-operatives, non-profit institutions, quasi-corporations and unincorporated government units (departments and agencies) as types of legal or social entity.

An enterprise is a view of an institutional unit as a producer of goods and services. The term enterprise may refer to a corporation, a quasi-corporation, a non-profit institution or an unincorporated enterprise (2008 SNA, 5.1).

Most enterprises consist of individual legal or social entities, or in some instances combinations of unincorporated legal or social entities. A household can constitute an enterprise where it undertakes economic activity that falls within the 2008 SNA production boundary.

An enterprise can be further subdivided into component production units where it engages in distinctive types of productive activity (multiple industries), at separate locations, e.g. a manufacturing plant and a wholesale outlet (2008 SNA, 5.2).

By creating jobs, enterprises generate demand for labour services.

The ABS has implemented these principles in the ABS Economic Units Model, which is used to determine the productive structure of Australian institutional units (ASNA, 4.31). The model consists of:

- The Enterprise Group (EG) - essentially equivalent to the 2008 SNA enterprise concept (2008 SNA, 5.1). The group dimension recognises the reality that enterprises can consist of multiple legal or social entities under common control.
- Legal Entities (LEs) - approximate the 2008 SNA concept of legal and social entities, but is extended to include households engaged in productive economic activity.
- Type of Activity Units (TAUs) - incorporate the industry homogeneity element of the 2008 SNA establishment, recognising that distinct activities such as manufacturing and retailing can be co-located.
- Location Units - incorporate the location element of the 2008 SNA establishment.

The Enterprise Group (EG) is an institutional unit that covers all the operations within Australia's economic territory of legal entities under common control. Control is defined in Corporations legislation. Majority ownership is not required for control to be exercised.

The Legal Entity (LE) is an institutional unit covering all the operations in Australia of an entity which possesses some or all of the rights and obligations of individual people or

corporations, or which behaves as such in respect of those matters of concern for economic statistics. Examples of legal entities include companies, partnerships, trusts, sole (business) proprietorships, government departments and statutory authorities. Legal entities are institutional units. In most cases, the LE is equivalent to a single Australian Business Number (ABN) registration.

The Type of Activity Unit (TAU) comprises one or more legal entities, sub-entities or branches of a legal entity that can report productive and employment activities. Type of Activity Units are created if accounts sufficient to approximate Gross Value Added are available at the Australian and New Zealand Standard Industrial Classification (ANZSIC) subdivision level.

A Location is a producing unit comprised of a single, unbroken physical area from which an organisation is engaged in productive activity on a relatively permanent basis, or at which the organisation is undertaking capital expenditure with the intention of commencing productive activity on a relatively permanent basis at some time in the future.

Institutional sectors

The institutional sectors of the 2008 SNA group together similar kinds of institutional units. Corporations, non-profit institutions, government units and households are intrinsically different from each other in that their economic objectives, functions and behaviour are different. Likewise, institutional units are allocated to sector according to the nature of the economic activity they undertake (2008 SNA, 4.16-4.17). 2008 SNA defines the following institutional sectors:

1. Financial Corporations;
2. Non-financial Corporations;
3. General government;
4. Non-profit institutions serving households (NPISH);
5. Households; and
6. Rest of the World.

In the ASNA, the NPISH sector is combined with the household sector.

Industry

An industry consists of all establishments (in the Australian context, Type of Activity Units) in the economy engaged in the same, or similar, types of activity (2008 SNA, 5.2; ASNA, 2.10-2.14). Units in the same industry are generally characterised by common production functions, use of similar types of assets, intermediate inputs or the production of outputs sharing common characteristics (ASNA, 5.1). Typically, goods producing industries are

distinguished from service producing industries; extractive industries (agriculture, forestry, fishing and mining) are distinguished from transformative industries (manufacturing and construction) and from distributive industries (transportation, wholesaling and retailing).

Type of Activity Units are classified to an industry using the Australian and New Zealand Standard Industrial Classification (ANZSIC, 2006 version), which is based on the current International Standard Industrial Classification (ISIC, revision 4).

In business surveys, data about jobs, both vacant and filled, hours paid for, labour costs and remuneration are collected at the Type of Activity Unit level, and are classified to the industry of the unit. This is also the unit level at which data are collected for compiling production (Gross Value Added) and generation of income accounts.

The Australian Labour Account provides data for each of the 19 industry divisions that represent the highest level of the ANZSIC and a subset of data for each of the 86 subdivisions. ANZSIC division codes and titles are:

A Agriculture, Forestry and Fishing
B Mining
C Manufacturing
D Electricity, Gas, Water and Waste Services
E Construction
F Wholesale Trade
G Retail Trade
H Accommodation and Food Services
I Transport, Postal and Warehousing
J Information Media and Telecommunications
K Financial and Insurance Services
L Rental, Hiring and Real Estate Services
M Professional, Scientific and Technical Services
N Administrative and Support Services
O Public Administration and Safety
P Education and Training
Q Health Care and Social Assistance
R Arts and Recreation Services
S Other Services

Economic territory and residency

The production of meaningful statistics about the economically active population requires that the economic territory to which the population relates is accurately defined.

The concept of economic territory in the 2008 SNA is not identical to the concept of country. The most commonly used definition is a territory under the effective economic control of a single government, and as such usually approximates the geographic borders of a country.

In principal, the economic territory of Australia as defined in the ASNA includes the geographic territory under the effective control of the Australian government, including:

- any islands belonging to Australia which are subject to the same fiscal and monetary authorities as the mainland;
- the land area, airspace, territorial waters, and continental shelf lying in international waters over which Australia enjoys exclusive rights or over which it has, or claims to have, jurisdiction in respect of the right to fish or to exploit fuels or minerals below the sea bed; and
- territorial enclaves in the rest of the world (that is, geographic territories situated in the rest of the world and used, under international treaties or agreements, by general government agencies of the country). Territorial enclaves include embassies or consulates, military bases, scientific stations, etc. It follows that the economic territory of Australia does not include the territorial enclaves used by foreign governments which are physically located within Australia's geographical boundaries.

Specifically, the economic territory of Australia consists of geographic Australia including Cocos (Keeling) Islands, Christmas Island, Norfolk Island, Jarvis Bay, Australian Antarctic Territory, Heard Island and McDonald Islands, Territory of Ashmore Reef and Cartier Island, and the Coral Sea Islands.

Within the Australian labour household surveys context, a distinction must be made between: the territories which determine the estimated resident population of Australia; those which are covered by household survey collection procedures; and those used to benchmark or 'weight' household survey estimates (i.e., the population benchmarks). See Information Paper: Improved Methods for Estimating Net Overseas Migration, 2006 (https://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/3107.0.55.003) .

- The "other territories" of Australia, namely Jervis Bay, Christmas Island, Cocos (Keeling) Island, and Norfolk Island after the 2016 Census, are included in the estimated resident population of Australia, but excluded from household survey collection procedures and population benchmarks.
- The "external territories" of Australia, namely Territory of Ashmore and Cartier Islands, Coral Sea Islands Territory, Australian Antarctic Territory, and Territory of Heard and McDonald Islands, are not included in the estimated resident population, household survey collection procedures or the population benchmarks.

Within the Australian labour business surveys context, no further geographical restrictions are imposed. Samples for business surveys are typically selected from the ABS Business

Register, and therefore all businesses within the economic territory of Australia may be included, providing they meet other relevant scope restrictions.

Residency

Within the 2008 SNA, residency is defined as the economic territory with which an institutional unit or individual has the strongest connection - in other words, its centre of predominant economic interest. Each institutional unit or individual is a resident of one and only one economic territory.

Actual or intended residence for one year or more is used as an operational definition in many countries (including Australia) to facilitate international comparability.

Residence of individuals and households

People are considered to have the strongest connection with the economic territory in which they physically reside. In the broadest sense, the total population consists of either all usual residents of the country (the usually resident or de jure population) or all people present in the country (the de facto population) at a particular time.

Household surveys use the first population category, the usually resident population. All people who are usually resident in Australia are considered part of the usually resident population, regardless of nationality, citizenship or legal status.

To determine whether a person is usually resident, Australia has adopted a 12 in 16 month rule. This rule specifies that, to be considered a usual resident, a person must have been (or expect to be) residing in Australia for 12 months or more in a 16 month period. This 12 month period does not need to be consecutive.

The application of the 12 in 16 month rule in the labour household survey context cannot be so precise. A screening question asks if the respondent has lived or intends to live in Australia for one year or more and, if not, they are excluded from the survey. Labour household surveys also include residents who are temporarily overseas for less than six weeks. However, the 12 in 16 month rule is explicitly applied in the estimated resident population, and the population benchmarks used to weight the LFS. For more information regarding the 12 in 16 month rule, refer to Information Paper: Improved Methods for Estimating Net Overseas Migration, 2006 (cat. no. 3107.0.55.003).

Residence of students

In the 2008 SNA, the residence of students is described as:

"...people who go abroad for full-time study generally continue to be resident in the territory in which they were resident prior to studying abroad. This treatment is adopted even

though their course of study may exceed a year. However, students become residents of the territory in which they are studying when they develop an intention to continue their presence in the territory of study after the completion of the studies."

Within the Australian labour household survey context, there is no special treatment for students and they are treated using the same 12 in 16 month rule. Within the Australian business survey context, there is no distinction made between students and other people, such that they are included if they are an employee, irrespective of their length of stay in the country.

Residence of enterprises

Within the labour business survey context, the de facto population is used, that is, all employees are included irrespective of their length of stay in the country. This is consistent with the SNA production boundary.

As a general principle, an enterprise is resident in an economic territory when it is engaged in a significant amount of production of goods or services from a location in the territory.

An enterprise is resident in an economic territory when there exists, within the economic territory, some location, dwelling, place of production, or other premises on which or from which the unit engages and intends to continue engaging, either indefinitely or over a finite but long period of time, in economic activities and transactions on a significant scale. The location need not be fixed, so long as it remains within the economic territory.

Corporations and non-profit institutions normally may be expected to have a centre of economic interest in the economy in which they are legally constituted and registered. Corporations may be resident in economies different from their shareholders, and subsidiaries may be resident in different economies from their parent corporations. When a corporation, or unincorporated enterprise, maintains a branch, office, or production site in another territory to engage in a significant amount of production over a long period of time (usually one year or more) but without creating a corporation for the purpose, the branch, office, or site is considered to be a quasi-corporation (i.e., a separate institutional unit) resident in the territory in which it is located.

Within the Australian business survey context, residency is determined by deriving the sample selection of business frames from the Australian Business Register, which is an administrative data source maintained by the Australian Taxation Office (ATO). The registration of a business by the ATO is deemed to be a demonstration that the business has a centre of economic interest within Australia.

Residency in the Australian Context

Applying residency concepts to survey collections:

Business surveys:

- include non-residents living in Australia employed by Australian companies, such as foreign students studying in Australia for periods of less than 12 months.
- include estimates of non-residents engaged by Australian businesses operating overseas that have no intention to stay in the non-resident country for more than 12 months.

Household surveys:

- include Australian residents living in Australia employed by non-resident enterprises, for example Australians engaged by foreign embassies and consulates and by overseas companies that have no intention of staying in Australia for more than 12 months.
- do not include estimates of non-resident people engaged by Australian businesses operating overseas, that have no intention to stay in the non-resident country for more than 12 months.

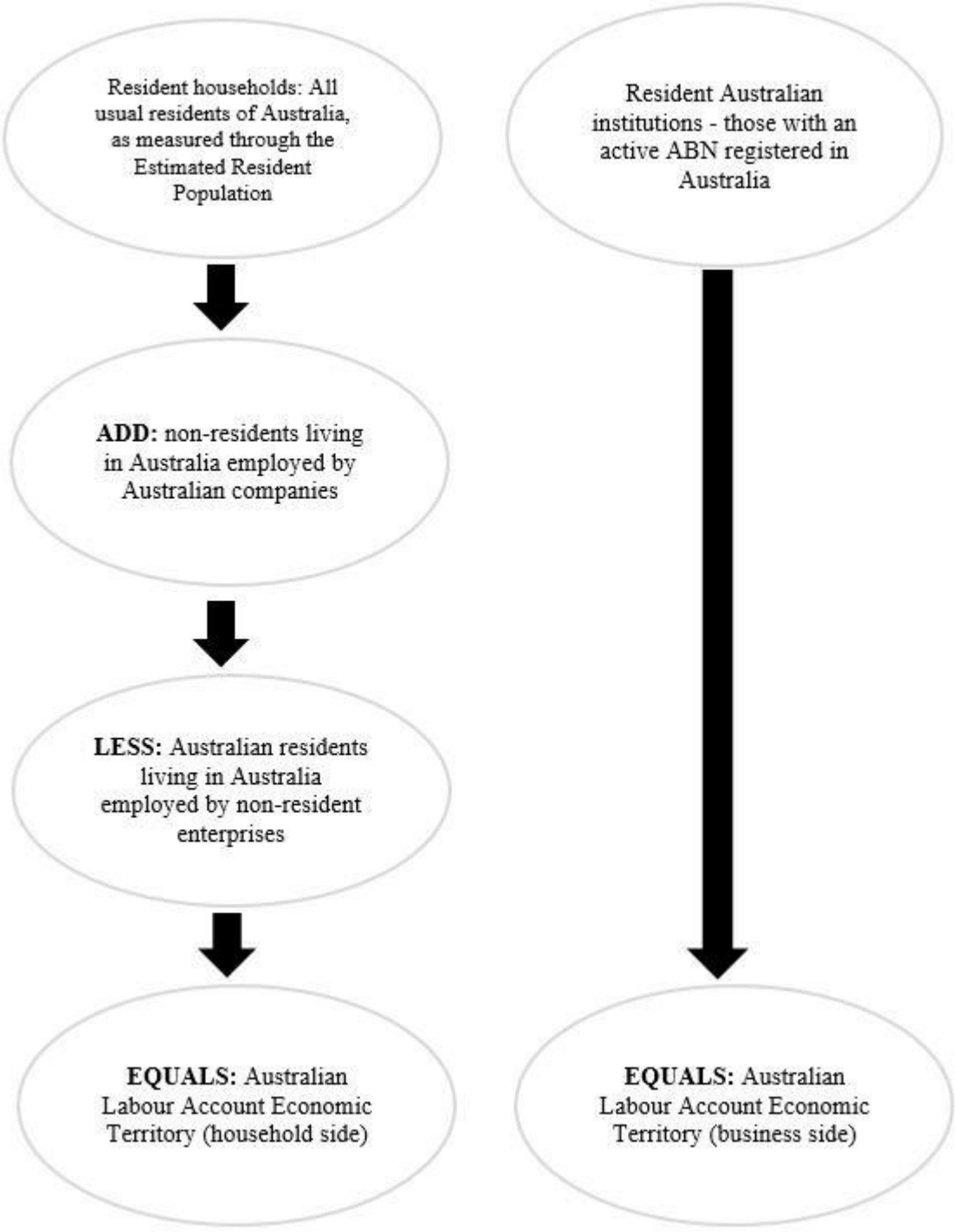
Applying residency concepts in practice, the Australian Labour Account makes the following scope adjustments to household survey estimates:

- add: non-residents living in Australia employed by Australian companies. Non-residents such as foreign students studying in Australia for periods of less than 12 months, temporary migrants and working tourists are included because they contribute to Australia's economic production and are included in the Compensation of Employees component of Gross Domestic Product (GDP).
- subtract: Australian residents living in Australia employed by non-resident enterprises, for example Australians engaged by foreign embassies and consulates and by overseas companies that have no intention of staying in Australia for more than 12 months.

The Australian Labour Account does not include estimated numbers of non-resident people engaged by Australian businesses operating overseas, but with no intention to stay in the non-resident country for more than 12 months. While conceptually included in the scope of the Australian Labour Account, due to lack of data no estimate has been included for the foreign workers they may employ.

The economic territory used in the Australian Labour Account is summarised below.

Australian Labour Account economic territory



Labour Account sources

Different data sources have been used in compiling the four quadrants of the Australian Labour Account. In general, the same data sources have been used to compile both quarterly and annual labour account estimates. Quarterly survey estimates have also been benchmarked to annual survey estimates where possible.

Australian Labour Account data at an industry level are derived where possible from data classified by industry reported in both business and household surveys. Where Australian

Labour Account data at an industry level are not reported in surveys, the industry detail has been modelled using alternative sources.

The Australian Labour Account uses both published and unpublished data from ABS and non-ABS various sources. These are detailed below.

- Australian Business Register
- Australian Demographic Statistics
- Australian Industry
- Australian National Accounts
- Australian National Accounts Supply-Use tables
- Balance of Payments
- Child Employment Survey
- Department of Defence
- Economic Activity Survey
- Government Finance Statistics
- Internet Vacancy Index (Jobs and Skills Australia)
- Job Vacancies Survey
- Labour Force Survey
- Labour Mobility, Australia
- Linked Employer Employee Database
- Migration statistics
- Overseas Arrivals and Departures
- Participation, Job Search and Mobility
- Public Sector Employment and Earnings
- Quarterly Business Indicators
- Survey of Education and Work
- Survey of Employee Earnings and Hours

For more information on how these sources are used to compile estimates in Labour Accounts, see the chapters for each Labour Account quadrants.

Labour Account methods

Compilation methods

The Australian Labour Account data tables are compiled using different methods, namely

interpolation, extrapolation, backcasting and benchmarking. Methods chosen are based on two factors: the context in which the data were originally collected, and ability to fill data gaps between collection points or reference periods.

Interpolation

Interpolation is a method of constructing new data points within the range of a discrete set of known data points. Where interpolation is used in the Australian Labour Account, it is generally designed to create a quarterly series between two annual data points when data with a quarterly frequency are not available. An example of this is measuring the number of public sector jobs, where quarterly data are estimated from two annual data points.

Extrapolation

Extrapolation is the process of estimating values of a variable beyond its original observed range. Some estimates in the labour account are derived by extrapolating data using various indicators, as information necessary to compile a comprehensive and complete account may not be sufficiently timely. For example, as there is a time lag between the current reference period and the release of Government Finance Statistics (GFS), data for employment subsidies in the Australian Labour Account are extrapolated forwarded based on the movements of previously observed data.

Backcasting

Backcasting is the process of estimating values of a variable prior to its original observed range, usually through analysing the growth rates or proportional distribution of a conceptually related series. In addition, some estimates for earlier time periods in the Australian Labour Account are backcast from partially observed information. For example, data from the Job Vacancies Survey are not available on the current industry classification prior to 2009, however the total number of job vacancies is known. Data on the current industry classification for earlier time periods have been backcast using by applying a concordance between the previous and current industry classifications, with the additional constraint that the known total number of job vacancies must be maintained.

Benchmarking

Benchmarking is the processes of combining sub-annual (quarterly) indicator data and annual data, and aligning them to produce quarterly economic data that combine the robustness of the annual 'benchmark' source while reflecting the pattern of sub-annual movement. Benchmarks (or annual data) are usually of higher quality because they come from annual surveys, which draw on more complete source data (e.g. balanced and audited company financial accounts), conduct more detailed enquiries, and generally have larger sample sizes. To create a quarterly series, the annual data provides the overall levels, to

which a conceptually related quarterly indicator series is benchmarked. An example of this in the Australian Labour Account is estimating private sector filled jobs by benchmarking quarterly jobs data to annual data.

There are a number of methods used to benchmark flow data, depending on the type of data to be benchmarked. The method used the majority of the time, due to its accuracy and ease of implementation, is the 'Proportional Denton Method'. This method preserves the movement of the quarterly data by minimising the absolute difference in the relative adjustments of two neighbouring quarters (i.e. keeping the benchmarked data to indicator data ratio as constant as possible over the time series), under the constraint that the sum of the quarters is equal to the annual data for each benchmark year.

The Australian Labour Account uses a modified Proportional Denton Method to benchmark the Quarterly Business Indicators Survey (QBIS) industry data to the annual industry data from the Economic Activity Survey (EAS).

The standard Proportional Denton Method is modified for use in the Australian Labour Account in the following ways:

- the Proportional Denton Method is generally used only in relation to flow data. In the Australian Labour Account, the mathematics underlying the Proportional Denton method have been modified to apply to stock data;
- the Proportional Denton Method is generally not used to extrapolate data series beyond their observed range. In the Australian Labour Account, annual industry data from the EAS, which are not yet available, have been extrapolated for the latest year as part of the modified Proportional Denton Method by assuming a benchmark data to indicator data ratio of one;
- in the context of flow data, the annual benchmark data measures a variable over an entire year and so should (theoretically) be equal to the sum of the four indicator data points for that year. In contrast, stock data measure a variable at a single point in time, and the annual stock benchmark data could simply be considered a more accurate measure of the indicator data of that quarter. The modified Proportional Denton Method used in the Australian Labour Account imposes an additional constraint for stock estimates, that the benchmarked quarterly data must be equal to the annual benchmark data in the June quarter of each year while maintaining, as much as possible, the quarterly movements of the indicator data.

For more information regarding the Proportional Denton Method, refer to paragraph 7.40 in the Australian System of National Accounts: Concepts, Sources and Methods.

Seasonal adjustment

Any original time series can be thought of as a combination of three broad and distinctly different types of behaviour, each representing the impact of certain types of real world

events on the information being collected: systematic calendar related events, short-term irregular fluctuations and long-term cyclical behaviour.

Seasonal adjustment is a statistical technique that attempts to measure and remove the effects of systematic calendar related patterns including seasonal variation to reveal how a series changes from period to period. Seasonal adjustment does not aim to remove the irregular or non-seasonal influences, which may be present in any particular data series. This means that movements of the seasonally adjusted estimates may not be reliable indicators of trend behaviour.

The ABS software for seasonal adjustment is the SEASABS (SEASonal analysis, ABS standards) package, a knowledge based seasonal analysis and adjustment tool. The seasonal adjustment algorithm used by SEASABS is based on the X-11 Variant seasonal adjustment software from the U.S. Census Bureau.

Trend estimates

In cases where the removal of only the seasonal element from an original series (resulting in the seasonally adjusted series) may not be sufficient to allow identification of changes in its trend, a statistical technique is used to dampen the irregular element. This technique is known as smoothing, and the resulting smoothed series are known as trend series.

Smoothing, to derive trend estimates, is achieved by applying moving averages to seasonally adjusted series. A number of different types of moving averages may be used; for quarterly series a seven term Henderson moving average is generally applied by the ABS. The use of Henderson moving averages leads to smoother data series relative to series that have been seasonally adjusted only. The Henderson moving average is symmetric, but asymmetric forms of the average may be applied as the end of a time series is approached. The application of asymmetric weights is guided by an end weight parameter, which is based on the calculation of a noise-to-signal ratio (i.e. the average movement in the irregular component, divided by the average movement in the trend component). While the asymmetric weights enable trend estimates for recent periods to be produced, they result in revisions to the estimates when subsequent observations are available.

Revisions to trend series may arise from:

- the availability of subsequent data;
- revisions to the underlying data;
- identification of and adjustment for extreme values, seasonal breaks and/or trend breaks;
- re-estimation of seasonal factors; and

- changes to the end weight parameter.

For more information about ABS procedures for deriving trend estimates and an analysis of the advantage of using them over alternative techniques for monitoring trends, see Information Paper: A Guide to Interpreting Time Series - Monitoring Trends (https://www.abs.gov.au/ausstats/abs@.nsf/mf/1349.0) .

In the Australian Labour Account, quarterly tables are produced in original, seasonally adjusted and trend terms. For the purpose of deriving the annual average level from quarterly stocks of jobs and employed people using an arithmetic average, original quarterly series are used.

Balanced tables

After adjusting for conceptual and scope differences between data sources, a statistical discrepancy remains between the number of filled jobs as reported by businesses and the number of filled jobs as reported by households.

These discrepancies represent the cumulative impact of data source error, including survey error, and modelling error. Survey error includes both sampling error and non-sampling error. Sampling error is the predictable variability arising from the use of samples, rather than a complete enumeration of the populations of enterprises and households. Non-sampling error is all other error present in an estimate, and includes:

- Error arising from the reliability of the survey population and related benchmark data, e.g. the accuracy, completeness and timeliness of the Business Register from which business survey samples are drawn, or the reliability of Estimated Resident Population data used in benchmarking the Labour Force Survey;
- Error arising from data used in the estimation and imputation procedures applied in both business and household surveys;
- Error embedded in the estimation and imputation models used in surveys, for example incorrect assumption that missing firm data is similar to that of reporting firms of comparable size in the same industry; and
- Error made by respondents in reporting data - for example, the Labour Force Survey relies on one responsible adult in each household to accurately report on the employment status of all other adults in the household, including industry of employment and hours worked in the survey reference week. Industry can be misreported where people are employed by labour hire firms, but actually work in other industries such as Mining, Construction or Manufacturing.

Error can occur in non-survey data sources, such as missing data or misclassification in government administrative records used directly in the Australian Labour Account. For

example, error could occur in the industry classification of sponsored visa holders, or in the reported number of people in the permanent defence forces.

Modelling error reflects errors embedded in the modelling assumptions used in the Australian Labour Account, for example in assuming that the proportion of children aged under 15 years who work has remained constant since 2006, or in assuming that Quarterly Business Indicators Survey employment movements accurately reflect quarterly change in the latest available annual data.

The balanced Australian Labour Account estimates apply knowledge of the known strengths and weaknesses of data sources and methodologies, to derive a single estimate of the number of filled jobs.

The balanced estimate of numbers of filled jobs impacts on other data in the Australian Labour Account that incorporate that estimate in their calculation. This includes balanced estimates of numbers of people employed, hours paid for and hours worked.

Two general observations about data source quality are relevant in deriving a balanced estimate of numbers of filled jobs:

- Household estimates of numbers of filled jobs are considered more reliable at a total economy level. Household data are mainly sourced from the Labour Force Survey, which applies a consistent methodology and asks a consistent set of questions of a statistically robust sample of people about the number of jobs held by employed people in their household. By contrast, no single business survey covers the whole economy. Estimates of the total number of filled jobs from the business side are derived from three separate surveys (Economic Activity Survey, Public Sector Employment and Earnings, and Quarterly Business Indicators Survey), supplemented by data obtained from the Australian Business Register. Each source has a different methodology, a different sample, and asks different questions. Adjustments are required to counter overlap. Growth in household side filled jobs is more consistent over time with growth in related economic data (Gross Domestic Product and Compensation of Employees) at a total economy level than growth in business side data.
- Business sources are considered more reliable in estimating the distribution of jobs across industries. The numbers of filled jobs reported by each business survey respondent are automatically coded to the industry classification of that business. This implies that labour input is correctly linked to related production, employment related costs and compensation.

Whilst additional considerations are taken into account at the industry level, the balanced estimate of filled jobs generally incorporates the advantage of the industry distribution derived from business side data, within a total economy estimate sourced from household side data.

Revisions in the Australian Labour Account

Revisions are a change in the value of a published estimate. Revisions arise from the correction of errors, the incorporation of more up-to-date data, reassessment of seasonal factors, and from time to time the introduction of new concepts or improved data sources and methods.

Revisions are an inevitable consequence of the process of producing the Australian Labour Account. Revisions reflect both the complexity of measurement, and the need to trade off some level of precision in order to provide timely estimates, to maximise their use in analysis of current economic conditions.

Quarterly revisions

- Updates to the Estimated Resident Population (ERP), usually affecting the latest eight quarters of data, resulting in quarterly revisions to the Labour Force Survey statistics on people, jobs and hours worked;
- Revisions to Quarterly Business Indicator Survey statistics on filled jobs, arising from replacement of imputed data with actual responses following late receipt of survey questionnaires; and
- Revisions to previously published seasonally adjusted and trend series, which will be revised to incorporate the seasonal effects of the latest quarterly data. This process is referred to as concurrent seasonal adjustment.

Annual revisons

- Revisions which reflect the cumulative impact of previous revisions to quarterly data;
- Revisions to Economic Activity Survey statistics on filled jobs, arising from replacement of imputed data with actual responses following late receipt of survey questionnaires;
- Revisions to Compensation of Employees and Gross Mixed Income following annual benchmarking of the Australian National Accounts, usually affecting the latest three years of quarterly data; and
- Revisions to expenditure on recruitment services and training, following release of updated Input-Output Tables.

Other periodic revisions

- Five yearly post-Census benchmarking of ERP, resulting in revisions to the household Labour Force Survey statistics on people, jobs and hours worked; and
- Revisions to Compensation of Employees and Gross Mixed Income arising from scheduled National Accounts historical revisions, potentially affecting quarterly data back to 1960.

Ad hoc revisions

- All data sources can be subject to revisions arising from the correction of errors. These can include data capture and compilation errors, mistakes in classification, or respondent misreporting; and
- Australian Labour Account data are also subject to revision arising from internal compilation errors.

ABS and international data quality assessment frameworks include revisions history as one of the indicators of quality. A revisions history assists users in assessing the probability and potential scale of change to published data. The ABS publishes revisions to previously published data with each quarterly update of the Australian Labour Account.